



FACT SHEET



JNTF FACT SHEET 99-019

Air and Missile Defense Analysis (AMDA)

MISSION

Analysis at the Joint National Test Facility (JNTF) is conducted primarily by the Air and Missile Defense Analysis (AMDA) team, which is comprised of subject matter experts in a variety of disciplines relevant to the air and missile defense mission area, and the necessary analysis tools. This capability enables the JNTF to respond to requirements for studies, analyses, evaluations and other similar efforts identified by various customers.

The AMDA Team performs analytical efforts primarily in support of National Missile Defense (NMD) and Joint Theater Air and Missile Defense (JTAMD, including Theater Missile Defense (TMD) and Cruise Missile Defense (CMD)). It also supports other related DoD mission areas such as Missile Warning and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR).

Issues which are being addressed span system development, acquisition, and operations: the performance of algorithms, elements, systems and architectures; experiments, tests and exercises; and warfighter concerns (e.g., doctrine, concepts of operations, interoperability). AMDA products are designed to support DoD acquisition and warfighter decisions both through large-scale processes such as Joint Mission Area Assessments (JMAA), Analysis of Alternatives (AoA), and Quadrennial Defense Reviews (QDR) and through tightly focussed efforts.

WHERE WE FIT IN

The AMDA capability contributes to virtually all aspects of the JNTF mission. It also responds to requirements of the BMDO Staff and Deputies, other DoD agencies such as JTAMDO, the services, the combatant commands, and current/potential international partners such as Canada, UK, and NATO.

CAPABILITIES

- **CONCEPT DEFINITION:** The AMDA team conducts preliminary analyses/technical assessments of proposed projects to define objectives, products, schedules, and resource requirements (technical expertise, tools, travel, etc.)
- **EVENT SUPPORT:** The team contributes to the design, risk mitigation, conduct, and/or results analysis of experiments, tests and exercises.
- **STUDIES:** The team plans and conducts studies, workshops and seminars.
- **VERIFICATION, VALIDATION AND ACCREDITATION (VV&A):** The team designs and conducts cost-effective, focused assessments of software, models, simulations, and analysis tools for the purpose of V&V; it then provides a basis for accreditation decisions.
- **ANALYSIS TOOLS:** The team maintains an integrated suite of analytical tools and supporting environments that enable execution of AMDA projects. Platforms include both high-end workstations as well as supercomputers. A partial list of the tools used in on-going or recently completed AMDA projects includes EADTB,

EADSim, Combat IV, X-Patch (RCS signature generation), PARSE (Phased Array Radar emulator), and the OASIS/FTPRNT nuclear exchange codes

- **TEAM EXPERTISE:** The AMDA team has technical and operational expertise in a variety of missile-defense relevant disciplines, including:
 - Trajectory and Orbital Dynamics
 - Natural and Manmade Backgrounds
 - Signatures (Radar, Optical)
 - Sensors (Radar, Optical)
 - Signal, Image Processing
 - Tracking (Stereo and Mono)
 - Discrimination
 - Sensor Resource Management
 - Architecture Analysis and Evaluation
 - Mission Performance Analysis
 - Operations Research
 - Campaign Analysis
 - Validation, Verification, and Accreditation
 - TAMD Operations
 - Nuclear Weapon Employment and Effects

STATUS

The AMDA Team has been providing information for acquisition and warfighter decisions since the late 1980s. The AMDA Team provides the flexibility and streamlining to enable rapid response to customer requirements.

Decision Inputs From a Level Playing Field

AVAILABILITY

If you would like more information on the capabilities and potential contributions of the JNTF's Air and Missile Defense Analysis Team, please contact:

Joint National Test Facility

730 Irwin Avenue
Falcon AFB, CO 80912-7300
Phone (719) 567-9202
jntf.info@jntf.osd.mil